

ABSTRACT of the Disclosure**Method of using Unbalanced Alternating Electric Field in Microfluidic devices.**

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The applicant describes a new method of generating directed motion of the liquid in the microfluidic device by applying “un-balanced” AC electric field for generating electroosmosis and related hydrodynamic flow in the chamber with any symmetry of the elements, including spherical or cylindrical symmetry, and any relative position of these elements. Direction of the flow depends on the phase of the “un-balanced” electric field, which opens a simple way to operate flow and create a desirable flow pattern.